

FitchRatings

FITCH AFFIRMS MICHIGAN GOS AT 'AA-'; OUTLOOK POSITIVE

Fitch Ratings-New York-23 October 2012: Fitch Ratings assigns an 'AA-' rating to the following State of Michigan general obligation (GO) bonds:

--\$96.135 million GO environmental program refunding bonds, series 2012 (tax-exempt).

The bonds are expected to be offered via competitive sale on Oct. 31, 2012.

In addition, Fitch affirms approximately \$1.87 billion in outstanding state GO debt at 'AA-' and affirms various state-related ratings at 'A+' as detailed at the end of this release.

The Rating Outlook is Positive.

SECURITY

General obligations of the state, with full faith and credit pledged.

KEY RATING DRIVERS

POSITIVE OUTLOOK LINKED TO ECONOMIC REBOUND: The Positive Outlook is based on the state's rebounding economic performance after a decade during which manufacturing sector weakness and the near-collapse of the domestic auto sector eroded the state's credit. Structural changes to the domestic auto sector have improved prospects for the state's economy going forward, but the state's above-average dependence on cyclical manufacturing is expected to remain a credit weakness.

SOUND FINANCIAL MANAGEMENT: State fiscal management has generally been conservative, and recent budgets have achieved balance through structural measures rather than one time solutions. Economic and revenue gains allowed a sizable deposit to the budget stabilization fund in fiscal 2012, with another planned in fiscal 2013.

LOW-TO-MODERATE LIABILITIES: Net tax-supported debt has been and is expected to remain in the low-to-moderate range. Obligations for retiree pensions and health care are manageable and the state continues to pursue additional savings.

WHAT COULD TRIGGER A RATING ACTION

STRUCTURAL BALANCE AND RESERVE FUND GROWTH: Rating improvement is likely with continued structurally balanced operations as enacted tax code changes are phased in. Continued progress in rebuilding fiscal flexibility through reserve fund replenishment is also key to credit momentum.

SUSTAINED ECONOMIC RECOVERY: Continued employment recovery and improvement in the high unemployment rate will be important for credit improvement.

CREDIT PROFILE

Fitch's 'AA-' rating on Michigan's GO bonds reflects the state's unusually weak economic performance in the decade through 2010, when persistent manufacturing weakness and the near-collapse in 2009 of the domestic auto sector weighed on the state's economic and fiscal performance. Since then, structural changes to the auto sector have improved its longer-term viability and the state's broader economy has benefited from more than two years of job gains and

steady growth in personal income. State financial performance has improved both because of the rebounding economy and efforts to structurally balance operations, achieved after substantial cuts in fiscal 2012. The state's fiscal flexibility, essential given the nature of its cyclical manufacturing economy, has materially improved with a sizable deposit to its budget reserve in fiscal 2012 and an additional planned deposit in 2013.

The Positive Rating Outlook assumes the state continues to achieve both structural balance and rebuilding of budget reserves, even as it absorbs the impact of recently-enacted tax rate changes. Despite clear economic and fiscal progress, the outsized importance of the cyclical manufacturing sector will continue to pose a source of longer-term credit uncertainty but does not, by itself, preclude rating momentum. Near-term uncertainty is likewise posed by the sustainability of recent economic gains as well as by several voter initiatives on the state's November ballot. In particular, a measure that would subject tax changes to a supermajority legislative vote or simple majority popular vote could limit the state's ability to respond quickly and effectively to budgetary challenges.

ECONOMY

Michigan's economy lost jobs on an annual basis between 2001 and 2010, with the decline in 2009 particularly steep at 7% reflecting the combined impact of the national recession and domestic automotive weakness and associated restructuring. Conditions have improved rapidly since then, with 2011 employment up 1.9%, compared to 1.1% nationally. Employment gains have continued into 2012, with September 2012 up 1.2%, below the 1.4% national rate of growth. The retrenchment in automotive employment has been significant and difficult for the state, with roughly two-thirds of automotive manufacturing and parts employment lost during the course of the last decade. As of September 2012, both sectors have logged sizable gains year-over-year, up 8.5% and 3.2%, respectively. Nonetheless, manufacturing sector jobs represent 13.2% of jobs in Michigan as of September 2012, well ahead of the 9% U.S. level, exposing the state to future cyclical risk. Unemployment is falling rapidly in Michigan but remains well over U.S. levels, at 9.3% in September 2012 compared to 7.8% nationally. The state's May 2012 consensus economic forecast anticipates continued steady growth in the near term, with wage and salary employment up 1.6% in 2012 and 1.1% in 2013.

Consistent with the state's significant employment losses, personal income growth lagged the nation throughout the last decade, and the decline in 2009 was more than 1% deeper than that of the nation. Personal income growth exceeded the nation in 2011, up 5.2% in Michigan versus 5.1% nationally. In the second quarter of 2012, personal income rose 4.1% in Michigan versus 3.3% nationally. As of May 2012, the state forecasts 3% growth in 2012 and 2.6% in 2013, figures which appear reasonable. By 2011, per capita personal income ranks 36th among the states at 87.3% of the national level.

FINANCES

Throughout much of the last decade, Michigan's contracting economy resulted in significant revenue declines, with actual results often underperforming estimates revised in the midst of fiscal years and requiring remedial action to maintain budget balance. These actions included revenue increases, spending austerity, and a variety of one-time measures, including drawing on federal economic stimulus monies, depleting reserves, and restructuring debt. Revenue stabilization became evident during fiscal 2010 and continued through fiscal 2011 which ended with significant surpluses in the general and school aid funds.

Budgetary performance further improved in fiscal 2012, with the enacted budget incorporating \$1.5 billion in ongoing spending cuts while accommodating a tax restructuring projected at the time to cost \$535 million, primarily through replacement of the Michigan business tax with a corporate income tax. Nonetheless, the budget also included a sizable projected deposit of \$256 million to the BSF, the first major deposit to the fund in nearly a decade. Notable with the adoption of the fiscal 2012 budget the state has added an additional forecast budget year, an improvement from past budget practice.

Revenue expectations rose in the course of fiscal 2012 (which ended on Sept. 30); the May 2012 consensus revenue forecast raised expected fiscal 2012 general fund and school aid fund receipts by \$33.9 million and \$112.5 million, respectively. The general fund is forecast to grow 2.9%, while the school aid fund declines 3.3%; figures which incorporate the effect of personal income tax and business tax restructuring in the budget. Actual fiscal 2012 revenue performance through September 2012 is reportedly ahead of the May forecast, with general fund revenues \$85 million over budget and school aid fund revenues \$8.1 million over budget. Ultimately the state deposited \$362.7 million into the BSF in fiscal 2012, equal to 4.2% of total general fund-general purpose revenues, while ending with a substantial preliminary surplus estimated at \$656 million.

The fiscal 2013 budget as adopted was structurally balanced, with one time revenues directed at one time spending, including a \$140 million BSF deposit. The May 2012 consensus forecast, upon which the adopted budget was based, anticipates a 1% decline in general fund revenues from fiscal 2012, while school aid fund revenues rise 2.7%. General fund expenditures grow 3.1% including one time spending.

DEBT AND RETIREE OBLIGATIONS

The state's debt and retiree obligations are manageable. Net tax-supported debt, at \$7.9 billion as of Sept. 30, 2011, represents 2.2% of 2011 personal income. GO debt amortization is above average with 42% to be retired over the next five years and 82% to be retired over the next 10 years.

The state's defined benefit pension obligations are limited given the state's conversion in 1997 to defined contribution benefits for newly-hired state employees. The funded ratio on a reported basis for the state's main pension system, the Michigan State Employees Retirement System (MSERS), has eroded due to investment losses. Based on its Sept. 30, 2010 actuarial valuation (the most recent available), the public employees' plan reported a 72.6% funded ratio. Using Fitch's more conservative 7% discount rate assumption (compared to the 8% assumed by MSERS), the funded ratio drops to 65.4%. Nonetheless, on a combined basis, net tax-supported debt and the pension liability attributable to the state are at 3.8% of 2011 personal income, well below the 6.6% median of Fitch-rated states.

The state has enacted various changes to state-administered retiree pension and health benefits in recent years, although many of the reforms have been successfully challenged in court. Legislation passed in recent years has eliminated other post-employment benefits for new hires and lowered the state's unfunded liability.

In conjunction with the affirmation of the state's GO credit, Fitch has also affirmed the following ratings with a Positive Outlook:

Michigan State Building Authority

--Revenue bonds (Facilities Program) series and (State Police Communications System) at 'A+'.

Michigan Municipal Bond Authority

--School program bonds (local government loan program revenue bonds) at 'A+';

--School loan revenue refunding bonds at 'A+'.

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Additional information is available at 'www.fitchratings.com'. The ratings above were solicited by, or on behalf of, the issuer, and therefore, Fitch has been compensated for the provision of the ratings.

In addition to the sources of information identified in the Tax-Supported Rating Criteria, this action was additionally informed by information from IHS Global Insight.

Applicable Criteria and Related Research:

--'Tax-Supported Rating Criteria', dated Aug. 14, 2012;

--'U.S. State Government Tax-Supported Rating Criteria', dated Aug. 14, 2012.

Applicable Criteria and Related Research:

Tax-Supported Rating Criteria

http://www.fitchratings.com/creditdesk/reports/report_frame.cfm?rpt_id=686015

U.S. State Government Tax-Supported Rating Criteria

http://www.fitchratings.com/creditdesk/reports/report_frame.cfm?rpt_id=686033

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MOODY'S

INVESTORS SERVICE

New Issue: Moody's assigns Aa2 rating to Michigan's \$100 million General Obligation Environmental Program Refunding Bonds, Series 2012

Global Credit Research - 22 Oct 2012

Stable outlook applies to current issue and \$5 billion of outstanding GO and appropriation-backed debt

MICHIGAN (STATE OF)
State Governments (including Puerto Rico and US Territories)
MI

Moody's Rating

ISSUE	RATING
General Obligation Environmental Program Refunding Bonds, Series 2012 (Tax-Exempt)	Aa2
Sale Amount	\$96,135,000
Expected Sale Date	10/31/12
Rating Description	General Obligation

Moody's Outlook

Opinion

NEW YORK, October 22, 2012 –Moody's Investors Service has assigned a Aa2 rating to the State of Michigan's approximately \$100 million issuance of General Obligation Environmental Program Refunding Bonds, Series 2012 (Tax- Exempt). Proceeds will refund portions of outstanding 2005 issues. The transaction is expected to generate debt-service savings with a net present value of about \$6.7 million, or almost 7% of the refunded bonds' par amount. The expected savings will be spread evenly through the eight-year term of the debt.

SUMMARY RATING RATIONALE

Despite a recent history of economic contraction more severe and extended than any other US state, Michigan in recent years has kept a comparatively strong financial profile. The dramatic downsizing of the Detroit-based US auto industry, culminating in 2009, eroded the state's economic base and drained financial reserves. Now Michigan is rebuilding its reserves, in keeping with strong financial management practices, as the auto industry stabilizes. Bonded debt remains modest and, with the implementation of defined-contribution pension plans, Michigan's retiree benefit funding burden appears manageable. Local units most affected by the past decade's deterioration may impose economic and budgetary burdens, but we expect the state's financial exposure to be limited by the existing legal framework. The state's role in overseeing cities such as Detroit (rated B3, under review for downgrade) is still evolving, however.

STRENGTHS

- Rebuilding of reserves and improved operating fund liquidity
- Economic stabilization, based on improving automobile industry sales and production trends
- Binding, consensus revenue forecasting practices and requirement to maintain balanced budget
- Moderate debt burden, and manageable retiree benefits liabilities

CHALLENGES

- Exposure to financially struggling local governments, with uncertainty on legal provisions for oversight

—Aftermath of auto industry downsizing, including reduced population

DETAILED CREDIT DISCUSSION

RAINY DAY FUND DEPOSITS UNDERSCORE STATE'S CONTINUING FINANCIAL RECOVERY

Michigan's budget for the year that began October 1 includes an expected \$140 million transfer to the state's Budget Stabilization Fund (BSF), bringing the fund's balance to \$505 million and marking a second consecutive fiscal year in which the state added to the BSF. Prior to the state's \$362.7 million fiscal 2012 deposit, the state had not put a substantial sum into the BSF in 12 years, and the fund's balance had fallen to \$2 million after net withdrawals of \$79.3 million in fiscal 2005. The \$505 million balance expected this year amounts to 2.3% of the \$21.9 billion of planned expenditures from the General Fund and the School Aid Fund, the state's two main operating funds. These BSF deposits, which are not mandated by statute, indicate a determination to restore a strong financial profile. State law governing the BSF generally requires deposits when real economic growth exceeds 2% and allows withdrawals when real GDP growth is less than zero, or when unemployment exceeds 8%.

OPERATING FUND LIQUIDITY HAS ALSO IMPROVED, ALLOWING STATE TO AVOID CASH-FLOW NOTES

As it began rebuilding its BSF, Michigan also saw a sharp recovery in its operating fund cash position. The General Fund and School Aid Fund combined cash balance as of September 30 rebounded to \$1.03 billion last year, compared with a negative \$374 million fiscal 2010 balance. Total common cash - which includes internal service, enterprise and trust and agency funds as well as retirement funds invested short-term - rose to \$3.49 billion on a cash basis at the end of fiscal 2011, more than double the year-earlier amount. Underscoring the state's improving liquidity, Michigan in fiscal 2012 did not issue cash-flow notes, for the first time in 10 years, and it has no plan to execute cash-flow borrowings in fiscal 2013. The state anticipates that cash balances showed further improvement in the year ended September 30, 2012. Growth in these balances will also be reflected in the state's GAAP-basis available fund balance. The most recent audit, covering the year ended September 30, 2011, showed unassigned fund balance of \$553.7 million. This audit was the first to reflect the requirements of the Governmental Accounting Standards Board's (GASB) new fund balance reporting standard (GASB 54), so the balance figure is not directly comparable to the state's reported 2010 available operating fund balances. Although Michigan's balances fell to low levels during the past decade, GAAP basis year-end available fund balances did not turn negative as occurred in many other states. Michigan maintained positive balances through tax increases and spending restraint as well as non-recurring measures.

REVENUE ESTIMATING PROCESS IS IMPORTANT FINANCIAL MANAGEMENT STRENGTH

A key component of Michigan's financial management is a strong revenue estimating process. Statute requires consensus revenue forecasts in January and May for use in the state's budget preparation. Forecast revisions may be made at other times, too, at the option of legislative and administration finance officials. The May consensus revenue forecast increased projected revenues for the state's general and school aid funds by a total of \$146 million, or 0.7%, reflecting improving economic conditions. The state's forecast for 2013, the fiscal year that began October 1, shows a 1% decline in general fund revenue balanced against a 2.7% gain in School Aid Fund receipts. Combined, revenues of the general and school aid funds are expected to rise 1% to \$20.14 billion, according to the May forecast. Weighing on the general fund's revenues will be the loss of revenues from the Michigan Business Tax, which in May 2011 was replaced with a flat 6% corporate income tax. Revenues of the School Aid Fund, meanwhile, are expected to be bolstered by continued gains in employment and income. The forecast shows revenue growth accelerating to 3.2% for the general fund and 2.7% for the School Aid Fund in 2014. The state anticipates that personal income growth will rebound to a 4.2% pace in calendar year 2014, from 2.6% the prior year, partly because of accelerating hiring trends. The forecasted income growth also reflects recovery from the preceding year, when income will be suppressed by the expiration of a temporary Social Security payroll tax cut.

FINANCIAL FLEXIBILITY MAY BE UNDERMINED BY BALLOT MEASURE NEXT MONTH

Voters on November 6 will decide on six ballot measures, one of which would amend the constitution to require that new or increased taxes be subject to a public vote or be approved by two-thirds majorities in the legislature. On September 5, the Michigan Supreme Court ruled that the Board of State Canvassers should place the measure, Proposal 5, on the November ballot. The board initially failed to approve Proposal 5 because of questions on whether sufficient disclosures were made to those who signed petitions to put it on the ballot. Michigan already operates under constitutional revenue constraints. A 1978 amendment, referred to as the Headlee Amendment,

limits tax and other revenue (excluding federal funds) to maintain the same ratio to total state personal income that existed in 1978, when it was enacted. This amendment would require taxpayer rebates if collections exceed the limit, potentially impeding financial flexibility. Given current state revenue levels, however, the Headlee limit has no practical effect. The Proposal 5 super-majority requirement for tax increases, however, could have immediate practical consequences, blocking increases of any existing taxes for any purpose, even when offset by other tax reductions. We believe the measure's approval would undermine institutionalized governance strengths that have long supported Michigan's rating. Another item on the ballot would provide constitutional protection for the right to unionize and bargain collectively; critics warn that this "Protect Our Jobs" amendment would invalidate laws that the state and local governments have passed as part of long-running efforts to contain employee benefit liabilities.

TROUBLED LOCAL GOVERNMENTS POSE POTENTIAL FINANCIAL CHALLENGE FOR THE STATE

Yet another of the state's six ballot measures is a referendum on Public Act 4, the 2011 law that would let the state intervene faster - and act more decisively - when overseeing the finances of troubled municipalities. Public Act 4, which gives state-appointed emergency managers authority to terminate or modify employee contracts and to suspend collective bargaining, is dormant pending the outcome of next month's vote, and the state's attorney general has opined that a prior municipal oversight law (Public Act 72) once again governs in the newer law's absence. State officials assert that ongoing oversight of eight municipalities (including three school districts) will not be impeded by Public Act 4's repeal, but the potential loss of the law nevertheless creates uncertainty over how the state will respond to local units' fiscal stress.

Michigan is taking steps to address challenges faced by financially struggling local governments, including Detroit Public Schools (B1, negative), the City of Detroit and the City of Pontiac (Caa1, developing outlook), as well as unrated cities such as Benton Harbor, Ecorse and Flint. Existing statute appears to limit direct exposure to the most severe crises at the local level, and state officials have said the state generally has no obligation to support Detroit's debt. However, the state does provide loans and guaranties to local governments through programs such as the Emergency Financial Assistance Loan Program, which the state expanded in August. Through the end of fiscal 2018, the program is authorized to lend as much as \$85 million, up from \$35 million before. This year's revisions also extended the program to school districts, increased allowable loan amounts to individual entities and lengthened the maximum loan term to 30 years from 20. As of August, local governments had borrowed \$80 million through the emergency loan program. Most of this amount corresponded to an interest-free loan extended to Wayne County (Baa2, negative) in 2000.

SCHOOL DISTRICTS HAVE BORROWED \$1.28 BILLION UNDER SCHOOL BOND LOAN PROGRAM

A larger support program for Michigan municipalities is the state's constitutionally mandated School Bond Qualification and Loan Program. School districts that issue bonds qualified for the program can receive loans for debt service exceeding what would be generated by a computed property tax millage - ranging from 7 to 13 mills. State loans can be made through the School Bond Loan Fund or, since 2005, through the School Loan Revolving Fund, and the state can issue both G.O. bonds and revolving fund-backed bonds to provide these loans. As of December 31, 2011, \$14 billion of qualified school district bonds were outstanding, down from the peak of \$14.37 billion at the end of 2010, reflecting reduced issuance in 2011. Program loans to qualified bond issuers as of December 31, 2011, totaled \$1.28 billion, up from \$1.06 billion on December 31, 2010. The state also must provide emergency support in the event a district with qualified bonds cannot make timely debt service payment. Annual debt service on all outstanding qualified school bonds for fiscal 2012 is \$1.48 billion. Given the diversity of the pool of borrowers and strong state oversight, the likelihood of an unmanageable, emergency draw on state support is low.

AUTO INDUSTRY HAS STABILIZED AND ANNUAL SALES RATE IS EXCEEDING BUDGETED LEVELS

The Michigan-based domestic auto industry has stabilized, thanks to federal government loans, restructuring efforts and renewed consumer demand as the economy recovers. Employment in Michigan's transportation equipment manufacturing sector increased 3.4% in 2010 and 7.2% in 2011, after a 26% drop in 2009. U.S. motor vehicle sales have been consistently strong in recent months, underscoring recovering consumer demand. In September, light vehicles sold at a 14.9 seasonally adjusted annual rate. The state's current revenue forecast is based on light vehicle sales at a 14.4-million-unit pace this calendar year, up 13.4% from 2011. Further growth in light vehicle sales is anticipated in 2013, when the state projects an annual rate of 15.1 million. Restructuring in the industry - including massive head-count reductions, implementation of a new UAW contract that discontinued the JOBS bank program and freed manufacturers of retiree health care obligations - has enhanced domestic auto manufacturers' profitability.

AUTO INDUSTRY'S DOWNSIZING LEAVES LASTING CHALLENGES FOR STATE

Economic stabilization at a lower base by no means assures return to pre-existing employment levels. The auto industry's downsizing will have lasting demographic effects on Michigan, which was the only state to lose population in the past decade. The state's manufacturing sector was almost halved, leaving employment at 475,700 in 2010, compared with almost 900,000 in 2000. Total non-farm employment, although up from lows reached after the recession, remains 15% (or 706,300 jobs) lower than it was in 2000, based on the average of Bureau of Labor Statistics monthly data from January through September 2012. Unemployment remains elevated in Michigan, at a preliminary, seasonally adjusted 9.3% in September compared with the nation's 7.8%. The state's unemployment rate is lower than the peak level of 14.2% reached in 2009, but the improvement may reflect not only the hiring of unemployed workers, but also workforce reduction caused by the unemployed abandoning job searches.

STATE'S NET TAX-SUPPORTED DEBT BURDEN HAS REMAINED BELOW U.S. MEDIAN LEVELS

Michigan has retained a modest debt burden, ranking 35th for debt-per-capita (\$785, versus a 50-state median of \$1,117) and 33rd for debt to income (2.2%, versus the 2.8% national median) in Moody's 2012 State Debt Medians report. This report was based on Michigan's tax-supported debt as of September 30, 2011. The net debt as of that date amounted to \$7.75 billion. The largest components of the state's net tax-supported debt are general obligation bonds, with about \$1.9 billion outstanding, and State Building Authority (subject-to-appropriation) bonds, of which \$3.2 billion are outstanding. It also includes revenue bonds issued by the state's Department of Transportation not directly linked to the state's G.O. rating. G.O. borrowings by the state, except those for school loan purposes, require approval in a public vote and by legislative super-majorities (two thirds). The state's net debt figure excludes the \$14 billion of qualified bonds issued by school districts discussed earlier. The state's variable-rate debt exposure is minimal, amounting to about \$91 million, or 1.2% of net tax-supported debt. The state is not a party to any swap agreements.

PENSION LIABILITY LIMITED BY CREATION OF DEFINED CONTRIBUTION PLAN

Michigan has limited its long-term liabilities for retiree benefits significantly, by converting to a defined-contribution plan for new employees as of March 31, 1997. About 60% of the state's workforce now participates in the defined-contribution plan. Prior to the dramatic stock-market declines in the second half of 2008, the state's pensions were adequately funded, at about 87% in aggregate based on the reported values of plan assets and liabilities. The reported funded status of Michigan's pensions has deteriorated since then, falling to about 74% in aggregate, based on the most recent actuarial information available. The state's defined-benefit funding burden is significant, but manageable. For the largest defined benefit plan the state contributes to, the State Employees Retirement System, contributions amounted to \$425 million in fiscal 2011, 95% of the annual required contribution and about 9% of total governmental funds expenditures.

STATE IS TAKING STEPS TO REDUCE OPEB LIABILITY THROUGH FUNDING AND BENEFIT REFORMS

The state is taking steps to reduce its large liability for other post-employment benefits (or OPEB, primarily health care). The most recent actuarial valuations put the unfunded actuarial accrued liability for the state's defined benefit OPEB plans at almost \$16 billion. Retirement reforms signed by the governor last year created an OPEB defined-contribution plan for new employees. In addition, the state, with the fiscal 2012 budget, began amortizing unfunded liabilities by contributing the actuarially determined, annual required contribution (ARC) for these benefits. The amount appropriated in fiscal 2012 was \$280 million. The state estimates that the impact of paying the full ARC will reduce its liability for OPEB by more than \$5 billion.

OUTLOOK

The state's outlook is stable, supported by strong management practices, such as mid-year spending adjustments.

WHAT COULD MAKE THE RATING GO UP

- Continued trend of financial reserve rebuilding and demonstration of lasting structural balance
- Economic performance in line with or exceeding the nation, based on job growth and other measures

WHAT COULD MAKE THE RATING GO DOWN

- Assumption of burdensome financial commitments in support of local governments

-Deterioration in economic forecast versus current assumptions

-Renewed reliance on deficit financing or other non-recurring measures to achieve budget balance

The principal methodology used in this rating was General Obligation Bonds Issued by U.S. Local Governments published in October 2009. Please see the Credit Policy page on www.moodys.com for a copy of this methodology.

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RatingsDirect®

Michigan; General Obligation

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US\$96.135 mil GO envr prog rfdg bnds (Tax-Exempt) ser 2012 due 11/01/2020

Long Term Rating

AA-/Stable

New

Michigan GO

Long Term Rating

AA-/Stable

Affirmed

Rationale

Standard & Poor's Ratings Services assigned its 'AA-' long-term rating, and stable outlook, to the state of Michigan's series 2012 (tax-exempt) general obligation (GO) environmental program refunding bonds. At the same time, Standard & Poor's affirmed its 'AA-' rating, with a stable outlook, on the state's approximately \$1.9 billion GO bonds outstanding.

The rating reflects what we view as:

- A cyclical economic base that is recovering from an earlier sustained downturn--in 2011 employment growth was the fourth highest among the states--in part because of the relative importance of domestic automakers to Michigan's economy;
- Good budget management and operational controls that have allowed the state to effectively operate on low fund balances; and
- A low debt and moderate pension burden, with manageable carrying charges.

In our opinion, previous financial pressures brought on by a prolonged state recession from which Michigan is now recovering and in the process of rebuilding its budget stabilization fund (BSF), and weak economic growth in the past decade offset these strengths.

A somewhat high other postemployment benefits (OPEB) obligation of \$16.8 billion is also an offsetting factor, although in fiscal 2012 the state began putting aside extra money into an OPEB trust fund and capped various future benefits, a practice it has continued into fiscal 2013 along with full funding of the OPEB actuarial annual required contribution (ARC) in fiscal 2013. Michigan expects this will reduce the unfunded actuarial OPEB liability by about \$5.6 billion.

In addition, voter initiative Proposal 12-5 will be on the November 2012 ballot, which in our opinion could constrain future state budget flexibility if passed. This proposal would require a two-thirds vote of the legislature to raise taxes or to re-authorize existing taxes. The proposal, if enacted, would require existing taxes that have sunset provisions to undergo a two-thirds legislative approval for reauthorization, instead of simple majority vote renewal.

An improved state economy, boosted by a rebound in the manufacturing industry, has improved state budget prospects. Michigan's enacted fiscal 2013 budget (for the fiscal year that began Oct. 1, 2012) assumes a combined beginning balance in its general fund/general purpose (GF/GP) fund, school aid fund, and BSF of \$1.3 billion, or 6.7% of 2012 combined GF/GP and school aid fund appropriations paid from state tax sources (not including appropriated transfers to the BSF). Overall, the state budget office represents that the fiscal 2013 budget will use about \$700 million

of fiscal year-end 2012 budget balances for one-time uses, while keeping a structural balance between ongoing revenues and expenditures. The state House Fiscal Agency projects a fiscal year-end 2013 combined GF/GP, school aid fund, and BSF balance of \$526.1 million, or 4.9% of combined GF/GP appropriations and school aid fund appropriations paid solely from state tax sources. Included in the overall balance drawdown is \$110 million of one-time earmarks to the state transportation fund, and the effect from the loss of \$104 million caused by accelerating scheduled income tax rate reductions to Oct. 1, 2012, from Jan. 1, 2013. The state projects a 14.7% increase in its fiscal 2013 GF/GP personal income tax, offset by cuts in its business tax and other factors, for a net 2.0% decrease of \$185.5 million in fiscal 2013 GF/GP revenue, while growth in its school aid fund income and sales tax revenue leads to a 2.6% school aid fund total revenue increase, or growth of \$281.2 million. Michigan also budgeted \$280 million in fiscal 2013 for transfer to an OPEB trust fund to fully fund its actuarial ARC; this is second year in a row it has fully funded its OPEB ARC.

Michigan went through a significant economic downturn in the last decade that started even before the Great Recession: its 2010 census population of 9.88 million was 0.6% below its 2000 population, ranking it 50th among the states in population growth. In 2011, however, the state enjoyed above-average economic growth, driven in particular by gains in manufacturing and national vehicle sales. It reported a 0.8% employment gain in calendar 2011. IHS Global Insight Inc. forecasts a 1.5% employment gain in 2012, compared with 1.4% for the U.S. and 1.1% in 2013, compared with 1.3% for the U.S. At the same time, the state's peak annual average unemployment rate of 13.4% in 2009 has declined, although it was a still-elevated 10.3% in 2011, and was 9.3% as of September 2012, according to the federal Bureau of Labor Statistics. State economists attribute Michigan's economic recovery in large part to national economic growth and improving vehicle sales. State per capita personal income was below average at 87.7% of the nation's in 2011.

Earlier economic fluctuations affected state revenue, shrinking discretionary GF/GP tax revenue by 24% between fiscal years 2008 and 2010, although total GF revenue increased with the benefit of federal aid and other sources. Despite the downturn in state-controlled revenue, Michigan managed to maintain positive fund balances in this period. Revenues have bounced back with the economic recovery. GF/GP revenues increased 12.9% in fiscal 2011, driven primarily by an increase in personal income taxes. Including the state's school aid fund, which receives a significant share of direct state tax revenue, combined GF school aid fund revenues increased 8.5% in fiscal 2011. At the same time, the GF/GP fund budgetary balance alone increased to \$553.7 million at fiscal year-end 2011, or 6.4% of GF/GP expenditures only, up from 2.4% in 2010. The state projects that the GF/GP fiscal year-end 2012 balance rose to \$749.1 million, or 8.8% against GF/GP expenditures alone. During the downturn, Michigan met budget gaps with extra federal funding, spending cuts, and one-time fund transfers.

On a generally accepted accounting principles (GAAP) basis, the state ended its most recent audited fiscal year (ended Sept. 30, 2011) with the unassigned portion of the GF balance at \$553.7 million, or 6.4% of GF/GP expenditures and 1.9% of total GF expenditures. This compares favorably with a \$187.2 million unrestricted GF balance at fiscal year-end 2010, or 2.4% of GF/GP expenditures and 0.7% of total GF expenditures. From fiscal years 2005 to 2011, the state's BSF, or rainy-day fund, was essentially depleted at about \$2 million. In fiscal 2012, Michigan contributed \$362.7 million to the BSF, and has appropriated another \$140 million in fiscal 2013. For fiscal year-end 2011, the audited total GF balance was \$1.7 billion and the school aid fund balance had a \$754 million restricted fund balance. On a combined

GAAP basis, total GF and school aid fund balances were \$2.5 billion, or 5.7% of combined total GF/school aid fund expenditures, up from a combined 3.0% in 2010.

Michigan historically used annual cash flow borrowing to cover lower cash periods and ensure adequate liquidity, but did not issue cash flow notes in fiscal 2012 as state cash balances rose to \$3.5 billion at fiscal year-end 2011, from \$1.5 billion at fiscal year-end 2009. Michigan pools its cash in a common cash fund, which helps support funds with less liquidity, and we believe it has historically maintained adequate liquidity.

As a refunding, this bond sale leaves our calculation of net tax-supported debt per capita unchanged at what we view as a low \$687 per capita; furthermore, GF-supported debt service carrying charges in fiscal 2011 remain what we view as low at about 1% of expenditures. However, pension fund market losses captured in updated September 2010 actuarial valuation dates have raised combined pension funds' unfunded actuarial pension liability to \$22.1 billion (up from \$15.4 billion the year before) and dropped combined pension funds' funding ratios to 72.7%. Included in this, however, is a \$17.6 billion unfunded school employees' retirement system liability, of which the state is not required to make direct contributions. Although Michigan continues to fund most of its pension and OPEB obligations, in 2010 overall contributions for the state employee funds were 89% and 45% of the actuarial annual actuarial pension and OPEB costs, respectively. In fiscal 2011, the state resumed full pension funding, and paid an extra \$300 million into OPEB trust funds in 2012 and an extra \$280 million in 2013. Unfunded OPEB was about \$16.8 billion as of the last actuarial valuation date including retiree life insurance, up from \$14.6 billion the year before (not including \$27.6 billion of unfunded teacher OPEB that Michigan does not fund directly). However, state actuaries have opined that the pre-funding into an OPEB trust fund in fiscal years 2012 and 2013 will reduce unfunded OPEB by about \$5.6 billion, and capping of various future benefits will also reduce OPEB to a lesser extent. Future OPEB mitigation might also occur for the extent Michigan continues full ARC payments for OPEB. Unfunded pension costs will also likely decline in the long term as a result of Michigan's movement of new state employees hired after 1997 to a defined contribution retirement plan. This action does not include teachers, who have a hybrid pension system.

Based on the analytic factors we evaluate for states, on a four-point scale where '1.0' is the strongest and '4.0' is the weakest, we have assigned a composite score of '2.1' to the state of Michigan.

Outlook

The stable outlook reflects Standard & Poor's expectation that Michigan's current economic recovery will sustain itself over the two-year outlook horizon and the state will continue to adjust its budget as necessary to maintain a positive fund balance position. We could raise the rating or revise the outlook if the state continues its structural alignment of revenues and expenditures and continues to improve its BSF, while at the same time experiences continued positive economic and demographic trends. Downside risks for the rating include the potential for significant reductions in federal funding that currently flows to Michigan, the possibility of another significant cyclical state economic downturn that leads to major deterioration in state finances, or the enactment of potential voter initiatives that would develop into a major impediment to future budget balancing.

Governmental Framework

The state constitution requires both the governor to propose a balanced budget and the legislature to enact it. However, it limits certain revenue-raising powers of the legislature. The constitution limits state sales tax to 6%, although Michigan represents that the definition of what is taxed could be broadened to include additional services. There is no constitutional limit on raising income taxes, other than that the income tax cannot be a graduated one. Other taxes can be raised by majority vote of the legislature, subject to the Headlee voter initiative passed in 1978.

The Headlee amendment limits total state revenue, excluding grants and certain other revenues, to a fixed percent of state personal income in the previous calendar year, or the average of the previous three calendar years, whichever is greater. If revenues exceed the limit by one percent or more, the entire amount of excess is rebated the next year. Taxes may be raised in excess of the Headlee limit on a two-thirds vote of the legislature, if the governor deems necessary.

Although the Headlee amendment creates state constitutional revenue limits, Michigan calculates that revenue is about \$8 billion below the Headlee limit, and Standard & Poor's does not see the Headlee limit as imposing significant financial constraints on the state.

Michigan constitution also requires that the proportion of state spending paid to all units of local government may not be reduced below 48.97% of total state spending. If it falls below, an additional appropriation for local governments must be made the following year. Michigan constitution also requires any new or expanded state-mandated activity of local governments be funded by the state. Since the passage of the Headlee amendment, we do not believe that significant additional voter initiatives have meaningfully affected Michigan's fiscal operations. Over two-thirds of total GF expenditures is made for education, the Department of Human Services, and the Department of Community Health. However, Michigan still has what we believe to be wide latitude to impose spending cuts. The governor has in the past proposed what we see as significant cuts in discretionary aid to local schools and aid to higher education to balance the state budget.

Although no monies are specifically pledged for state GO debt service, statutory law (Act No. 259) requires the state treasurer to pay principal and interest on state GO debt from any money or revenue under the control of the state treasurer, other than retirement or trust funds, restricted gifts or grants, or other revenues restricted by Michigan constitution. If GO debt service is not paid when due, the state treasurer must pay debt service from the first state money or revenue under his control, other than retirement or trust funds, restricted gifts or grants, bond funds, and revenue restricted by the state constitution. Issuance of Michigan GO debt for loans to schools does not require voter approval, but other GO debt requires a two-thirds vote in each house of the legislature and voter approval.

The state issues GO debt, debt secured by GF appropriations, and various types of revenue debt.

On a four-point scale where '1.0' is the strongest and '4.0' is the weakest, Standard & Poor's assigned a '1.5' to Michigan's governmental framework.

Financial Management Assessment: 'Good'

Financial management practices

Michigan's financial management practices are considered "good" under Standard & Poor's Financial Management Assessment (FMA) scoring criteria. The state uses independent revenue forecasts in its consensus revenue-estimating conferences, including examining economic performance at the individual industry level. Expenditure assumptions are based on detailed data provided by individual departments due to detailed accounting and reporting systems.

Expenditure controls include the ability of the state budget director to reduce or adjust budget allotments 15 days after notifying the legislature and the ability of the governor to reduce expenditures through executive order. Investment management is governed by both statutory restrictions and adopted administrative policies, and compliance is monitored through the office of the state treasurer. All state departments are required to update their five-year capital improvement plans annually, including proposed funding sources for all projects.

Although no formal long-term financial forecasts are published, both the state treasurer and the budget director produce informal projections for planning considerations. No formal policies govern Michigan debt issuance in a comprehensive manner, but debt management benefits from strong administrative oversight and many issuing authorities have operating guidelines of their own. The state does have a statutory reserve policy that any inflation-adjusted growth in state personal income above 2% should trigger a proportionate transfer of GF/GP revenues into the BSF and that any unreserved GF balance at year-end be transferred into the BSF. However, between 2004-2011 the BSF was essentially empty due to weak economic conditions. In fiscal 2012, Michigan appropriated a \$256 million transfer to the BSF (due to improved revenues a transfer of \$362.7 million was actually made), and the 2013 budget transfers an additional \$140 million, which the House Fiscal Agency projects will bring the BSF balance up to \$508.6 million by fiscal year-end 2013. No formal minimum reserve policies exist. (See table for financial data.)

Michigan Financial Data

(Mil. \$)	----Fiscal year ended Sept. 30----					
	2011	2010	2009	2008	2007	2006
General fund (GF)-GAAP						
GF revenues	30,191	28,378	26,555	25,663	23,401	22,835
GF expenditures	29,823	28,531	26,806	25,351	23,642	23,113
Net transfers and other adjustments	301	198	(68)	(3)	154	(107)
Net GF operating surplus (deficit)	669	44	(319)	309	(87)	(384)
Total GF balance	1,703	1,016	972	1,291	982	1,089
Unassigned/unreserved GF balance	554	187	177	458	259	1
Budget stabilization fund (within committed GF balance)	2.0	2.0	2.0	2.0	2.0	2.0
Combined unreserved GF + budget stabilization fund balance/GF expenditures (%)	1.9	0.7	0.7	1.8	1.1	0.0
Net surplus (deficit)/GF expenditures (%)	2.2	0.2	(1.2)	1.2	(0.4)	(1.7)
Debt						
Direct GO debt	1,870	1,661	1,660	1,477	1,463	1,766
Tax-supported revenue debt*	1,512	1,612	1,711	1,772	1,843	1,836
Appropriation debt	3,175	3,008	2,969	3,375	3,366	3,449

Michigan Financial Data (cont.)						
All tax-supported state debt	6,557	6,281	6,340	6,624	6,672	7,051
Per capita GO state debt	189	168	170	147	145	175
Per capita all tax-supported state debt	664	635	648	666	667	698
All tax-supported debt to personal income (%)	1.8	1.9	2.0	2.0	2.0	2.0
GF debt service/GF expenditures (%)	1.0	1.0	1.0	1.0	1.0	1.0

*Transportation tax-secured debt, includes accumulated accretion. GAAP--Generally accepted accounting principles. GO--General obligation.

Budget management framework

State legislation requires the governor's office and legislative agencies to prepare two economic forecasts and revenue estimates in January and May each year, which assist in the governor's annual initial budget proposal and later budget enactment by the legislature. Michigan monitors expenditures against budget on a monthly basis. If revenues fall below budget, midyear expenditure reductions might be made by recommendation of the governor and approval by both House and Senate appropriations committees. By statute, any recommendation by the governor to reduce expenditures because of a revenue shortfall must be approved or disapproved by a majority of the members of the House and Senate appropriating committees within 10 days. No reduction may be made without approval of both committees. If approved, appropriations are reduced. If not approved by both committees, the governor may submit a new request for expenditure reductions in 30 days.

On a four-point scale where '1.0' is the strongest and '4.0' is the weakest, Standard & Poor's assigned a '2.0' to Michigan's financial management, which includes both the FMA and the state's budget management framework.

Economy

State population growth has been below that of the nation. Population declined 0.6% from 2000-2010, to 9.88 million--well below the nation's growth of 9.2% and ranking 50th of all the states. The U.S. Census bureau estimates Michigan's population declined a marginal amount--less than 0.0% in 2011--compared with 0.7% growth for the U.S. Michigan's age dependency ratio in 2010, as defined by the U.S. Census bureau, is slightly higher than the nation's at 60.0%, compared with 59.2% for the U.S. The state's average annual unemployment rate in 2011 was 10.3% compared with 8.9% for the nation, an improvement for Michigan from 13.4% in 2009 compared with 9.3% for the nation. The most recent figures show a preliminary state seasonally adjusted unemployment rate of 9.3% for September 2012 compared with 7.8% for the nation.

At \$36,264, state per capita income was 87.3% of the nation's in 2011, up from 86.8% the year before. State gross domestic product (GDP) per capita was also below average, at 81.1% of the nation. Until recently, Michigan's GDP growth was what we consider below average, in part due to the auto industry woes, with annual growth in real dollars at negative 2.2%, 0.07%, negative 6.0%, negative 9.0%, and 4.9%, and 2.4%, from 2006-2011, compared with 2.7%, 1.8%, negative 0.7%, negative 3.8%, 3.1%, and 1.5% for the nation in that period.

With the previous downsizing of the auto industry, Michigan employment sectors have diversified, in our opinion, although the state still relies on the auto industry despite a downturn in manufacturing employment to 464,800 in 2009 from 618,800 in 2007. Since then, state manufacturing employment rebounded to 506,100 in 2011. Of these 506,100

jobs, 376,000 were involved in manufacturing durable transportation equipment, or about 9.0% of total state employment. The state reports that Michigan vehicle production was up 38% in 2010, 22% in 2011, and 24% so far in 2012. After falling more than that of the nation in the last recession, state housing prices are now increasing faster than the nation.

Of overall employment in September 2012, trade, transportation and utilities accounted for 18.0% of total state employment, compared with 19.0% for the nation; professional and business services were 14.4% for the state and 13.5% for the nation; state manufacturing was 13.1% compared with 8.9% for the nation; education and health services were 15.8% (state) compared with 15.3% (nation); government was 15.3% (state) compared with 16.5% (nation); leisure and hospitality was 9.5% (state) compared with 10.2% (nation); financial activities were 5.0% (state) compared with 5.8% (nation); and construction was 3.1% (state) compared with 4.1% (nation).

On a four-point scale where '1.0' is the strongest and '4.0' the weakest, Standard & Poor's assigned a '2.8' to Michigan's economy.

Budgetary Performance

The state's House Fiscal Agency projects the enacted fiscal 2013 budget (for the fiscal year that commenced Oct. 1, 2012) begins with a GF/GP balance of \$749.1 million according to the state budget office, a beginning \$194.6 million balance in the school aid fund according to the House Fiscal Agency, and a \$364.9 million beginning balance in the BSF, for combined beginning balances of about \$1.3 billion. Overall, the state budget office represents that it will be using about \$700 million of fiscal year-end 2012 budget balances for one-time uses in fiscal 2013, while keeping a structural balance between ongoing revenues and expenditures. The House Fiscal Agency projects a budgeted fiscal 2013 ending GF/GP balance of \$25.6 million, a school aid balance of negative \$8.1 million, and a BSF balance of \$508.6 million, for combined ending balances of \$526.1 million, or 2.6% of combined GF/GP appropriations and the portion of school aid fund appropriations paid solely from state tax sources. Included in the overall balance drawdown is \$110 million of one-time earmarks to the state transportation fund, and the effect from the loss of \$104 million caused by accelerating scheduled income tax rate reductions to Oct. 1, 2012, from Jan. 1, 2013. The 2013 budget also appropriated \$140 million to its BSF, and \$280 million to an OPEB trust fund. The state projects a 14.7% increase in its fiscal 2013 GF/GP personal income tax, offset by cuts in its business tax and other factors for a net 2.0% decrease (negative \$185.5 million) in fiscal 2013 GF/GP revenue, while growth in its school aid fund income and sales tax leads to a 2.6% revenue increase, or an increase of \$281.2 million. Budgeted GF/GP revenue appropriations will increase 5.9% over the previous year, including a \$203.8 million increase in GF/GP appropriations to school aid, while the separate school aid fund, which has its own dedicated portion of income and sales taxes, has a budgeted increase of 2.3% in appropriations made from state tax sources. Of the \$9.0 billion in GF/GP 2013 appropriations (not including transfers to the BSF), 31.3% will go to community health, 17.2% to community colleges/higher education, 11.2% to human services, and 21.6% to corrections. Higher education will see a 2.6% increase in appropriations, while community colleges will remain flat. School aid to local schools will increase 1.6%, including the extra appropriation of \$282.4 million to schools from the GF/GP. GF/GP human service spending will increase 4.0%, community health 2.2%, and corrections will decrease 0.7%.

The state budget also assumes some savings from higher pension and health care contributions from current state employees, unless employees choose to switch to the defined benefit plan in which recent employees are already required to participate. The courts have recently ruled against Michigan on the higher contributions, but litigation continues. The state believes it can make other contribution adjustments for equivalent savings if it loses the pending litigation.

Michigan bases its revenue forecasts on executive and legislative consensus forecasts produced in January and May, to coincide with the governor's annual budget proposal and budget enactment by the legislature. In recent years, the state has operated with what we view as relatively low reserves. Fiscal year-end 2011 GAAP unassigned GF balances plus BSF balances equaled about 1.9% of GF expenditures. However, total GF balances were about 5.7% of GF expenditures. The state's school aid fund also had a restricted balance of \$754 million, which was also 5.7% of school aid fund expenditures. The unassigned fiscal year-end 2011 GF balance compared with just the state's GF/GP discretionary expenditures was 6.2%. The state manages its budget performance and regularly issued cash flow notes on an annual basis until fiscal 2012, when rising liquidity obviated the need. The state treasury office tracks revenues monthly.

The BSF has a statutory basis, requiring certain economic triggers for funding and withdrawals, but we have not viewed the BSF as a significant credit factor in recent years because it has been funded at what we see as a minimal level of about \$2 million for seven years, and before that the funding formula was overridden at times by the legislature to use the BSF balance to fund either transportation or for routine budget balancing. However, in fiscal 2012 Michigan made a \$362.7 million deposit to the BSF, and the enacted 2013 budget appropriates another \$140 million.

The statutory formula for the BSF limits its balance to 10% of combined GF/GP and school aid fund revenues, although we do not view this as a practical consideration due to the historically low level of funding. The BSF legislation specifies that when state personal income growth exceeds 2% annually, the percent over 2% is multiplied by current fiscal year GF revenue and used to determine the amount transferred to the BSF. When personal income growth is less than 0%, the percent deficiency is multiplied by GF revenue to determine the amount transferred out of the BSF to the GF, unless not needed to balance the budget. If state unemployment exceeds 8%, the legislature can transfer money out of the BSF for specific purposes and specific amounts according to formula. A two-thirds vote of the legislature can also appropriate BSF money, although statutory changes in the law can also allocate money. In the past, transfers have been made out of the BSF to the state transportation trunk line fund and for the use of state parks.

In terms of cash liquidity, Michigan uses a common pooled cash fund for liquidity, which pools all funds other than certain trust funds and authority and college operations. Consistent negative combined GF and school aid fund balances in recent years have been offset by positive cash balances in other funds. We believe the state projects daily cash flow and monitors it closely. Common cash pool balances at fiscal year-end have been above \$1.3 billion since fiscal year-end 2006, and were \$3.5 billion at fiscal year-end 2011, including a BSF balance of \$2.2 million and combined GF and school aid fund balances of \$1.0 billion. This is up from a combined cash balance of \$1.6 billion at fiscal year-end 2010. Michigan reports that its average daily cash balances in the past three years were generally more than \$1 billion. The state indicates it is well over the minimum \$200 million cash balance it would like to have for liquidity purposes. It can issue cash flow notes without voter approval up to 15% of undedicated revenues received in

the previous fiscal year, although it did not issue cash flow notes in 2012.

GF/GP revenues for fiscal 2011 consisted of 52.7% personal income tax, 19.8% sales and use taxes, and 17.8% business taxes. The state's history of adjusting revenues is limited in our opinion--most budget-closing actions have been from expenditure cuts.

We believe that from time to time cyclical economic performance can provide budget pressures on both spending and revenues. Other potential unpredictable budget uncertainties could, in our view, be the political pressure to provide assistance to distressed local governments, such as the city of Detroit, or the Detroit public school system, among other localities. Michigan is empowered under state law to impose emergency managers over distressed local governments and to monitor the fiscal health of localities.

On a four-point scale where '1.0' is the strongest and '4.0' is the weakest, Standard & Poor's assigned a '1.8' to Michigan's budgetary performance.

Debt And Liability Profile

Standard & Poor's considers the state's \$6.6 billion of total tax-supported debt at fiscal year-end 2011, including tax-supported transportation debt, to be moderate \$664 per capita. Bond sales subsequent to fiscal year-end 2011 have added about \$23 per capita in debt. Tax-supported debt at fiscal year-end 2011 included \$1.9 billion of state GO debt, \$3.2 billion of state GF secured appropriation debt, and \$1.5 billion of motor vehicle user tax-related debt. We calculate that total tax-supported debt as a percent of gross state product will remain low at 1.7% after this current refunding, and also low as a percent of state personal income at 1.9%. We calculate GF-supported debt service as low at about 1.0% of combined GF and school aid fund expenditures. However, total tax-backed debt principal amortization is average in our opinion, at 59% in the next 10 years.

As of the most recent actuarial reports, Michigan's combined pension systems were only 72% funded on an actuarial basis, and most of them had a September 2010 valuation date. The state pension systems' combined unfunded actuarial pension liability of \$22.1 billion, or \$2,236 per capita and 6.4% of state personal income, we view as moderately elevated. The state education retirement system was responsible for \$17.6 billion of the unfunded liability, although Michigan does not directly fund it. The majority of the rest of the unfunded liability comes from the state employee retirement system (SERS). In fiscal years 2009-2011, Michigan did not fully fund the ARC for the state police pension system (SPRS; 80% of payment made in fiscal 2011) and the SERS (96% in 2011). Unfunded state pension liabilities are about 6.4% of state personal income.

Michigan moved state employees hired after March 1997 to a defined contribution retirement plan, closing the defined benefit retirement plan to new employees. Teachers hired after July 2010 also have been moved to a hybrid defined benefit and defined contribution plan. In the long run, this will help contain retirement costs.

The state's unfunded OPEB obligations totaled \$15.87 billion as of the September 2010 valuation date, up from \$14.6 billion the year before, not including teacher OPEB, a level that we see as somewhat high. However, Michigan has begun measures that might mitigate future OPEB liabilities. It transferred \$300 million to OPEB trust funds in fiscal

2012, which it projects will lower total unfunded actuarial OPEB by \$5.6 billion. The governor has proposed full funding of the OPEB ARC in fiscal 2013, which if continued in future years would fully amortize unfunded OPEB over 26 years.

Michigan provides health, dental, and vision benefits, as well as life insurance coverage, to retirees of all state pension plans to which it makes contributions, except the military retirement plan. Benefits until fiscal 2012 were funded on a cash flow basis. The majority of the state's retiree benefits payments go toward retirees under the SERS, with retirees in the SPRS making up most of the remainder. As of the Sept. 30, 2011, valuation date, the state reports unfunded actuarial OPEB liabilities totaled \$14.7 billion for the SERS, \$1.1 billion for the SPRS, \$139 million for the legislative retirement system, and \$7.9 million for the judges' retirement system. Retiree life insurance benefits are funded through the retirement systems and had an unfunded OPEB of \$964 million as of Sept. 30, 2009. In fiscal 2011, Michigan paid 48% or less of the ARC for its various OPEB retirement systems, under its pay-as-you-go funding. Although the state does not pay teacher OPEBs, it does provide operating aid to local school districts. The teachers' pension system calculates unfunded teacher OPEB at \$17.6 billion as of Sept. 30, 2010. Unlike accrued pension benefits, state courts have ruled that health care benefits are not protected as a matter of law, in our view indicating potential legal ability on Michigan's part to cut OPEB liabilities under new union contracts.

On a four-point scale where '1.0' is the strongest and '4.0' is the weakest, Standard & Poor's assigned a '2.5' to Michigan's debt and liability profile.

Related Criteria And Research

- USPF Criteria: State Ratings Methodology, Jan. 3, 2011
- USPF Criteria: Financial Management Assessment, June 27, 2006

Ratings Detail (As Of October 25, 2012)

Michigan GO

Unenhanced Rating

AA-(SPUR)/Stable

Affirmed

Many issues are enhanced by bond insurance.

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McGRAW-HILL



MEDIAN REPORT

2012 State Debt Medians Report

Growth in 2011 State Debt Slows Substantially, but Debt Service Costs Continue to Rise

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Growth in outstanding state debt slowed dramatically in calendar year 2011 compared to the rapid growth of the prior two years. After 10% and 8% growth in outstanding net tax-supported debt (NTSD) in 2009 and 2010, NTSD was relatively flat in 2011 with only 2.5% growth. The combined 2011 NTSD for all 50 states increased to \$510 billion from \$497 billion in 2010. In this year's report, we present both the 2011 data and ratios measuring state NTSD, as well as the associated debt service costs and ratios for the fiscal year. Among our findings:

- » **States slowed their borrowing in 2011, despite the low interest rate environment.** New money issuance was constrained both by legal debt limitations and anti-debt sentiment that arose during the recession and the U.S. debt ceiling debate. Additionally, during 2010 many states accelerated their borrowing calendars to participate in Build America Bonds (BABs) which reduced their capital borrowing needs in 2011.
- » **Although overall borrowing in 2011 was lower, measures of state leverage were mixed.** Median NTSD per capita increased by 7% amid the weakest population growth in more than 70 years, while NTSD as a percentage of personal income was flat at 2.8%. NTSD as a percentage of gross state product also remained flat at 2.4%.
- » **State's total debt service costs increased by 8.6% in 2011** as repayments began on the substantial amount of debt issued during the downturn. Favorably, total revenue available for debt service also grew a healthy 8.9% in fiscal 2011, and the median debt service ratio remained flat at 4.9%.
- » **Growth in state NTSD is expected to remain subdued in 2012,** amid policy and legal constraints to new issuance, and a move in some high debt states toward more pay-go capital funding. The 2012 growth in NTSD will be comparable or slightly higher than 2011 levels, but well below the large increases of 2009 and 2010.

TABLE 1

Net Tax-Supported Debt Per Capita

			Rating
1	Connecticut	\$5,096	Aa3
2	Massachusetts	\$4,814	Aa1
3	New Jersey	\$3,964	Aa3
4	Hawaii	\$3,899	Aa2
5	New York	\$3,208	Aa2
6	Delaware	\$2,674	Aaa
7	Washington	\$2,588	Aa1
8	Illinois	\$2,564	A2
9	California	\$2,559	A1
10	Kentucky	\$2,035	Aa2*
11	Oregon	\$2,015	Aa1
12	Rhode Island	\$1,997	Aa2
13	Wisconsin	\$1,827	Aa2
14	Maryland	\$1,742	Aaa
15	Mississippi	\$1,734	Aa2
16	Alaska	\$1,454	Aaa
17	New Mexico	\$1,406	Aaa
18	Louisiana	\$1,398	Aa2
19	Utah	\$1,393	Aaa
20	Kansas	\$1,215	Aa1*
21	Virginia	\$1,169	Aaa
22	West Virginia	\$1,168	Aa1
23	Florida	\$1,167	Aa1
24	Minnesota	\$1,148	Aa1
25	Pennsylvania	\$1,134	Aa1
26	Georgia	\$1,099	Aaa
27	Ohio	\$1,012	Aa1
28	Arizona	\$966	Aa3
29	Maine	\$845	Aa2
30	Alabama	\$839	Aa1
31	South Carolina	\$827	Aaa
32	North Carolina	\$815	Aaa
33	Nevada	\$793	Aa2
34	Vermont	\$792	Aaa
35	Michigan	\$785	Aa2
36	New Hampshire	\$776	Aa1
37	Missouri	\$741	Aaa
38	Oklahoma	\$615	Aa2
39	Texas	\$588	Aaa
40	Idaho	\$558	Aa1*
41	Colorado	\$529	Aa1*
42	Indiana	\$446	Aaa*
43	South Dakota	\$358	NGO**
44	Montana	\$348	Aa1
45	Tennessee	\$343	Aaa
46	Arkansas	\$333	Aa1
47	Iowa	\$310	Aaa*
48	North Dakota	\$255	Aa1*
49	Wyoming	\$64	NGO**
50	Nebraska	\$15	NGO**
MEAN:		\$1,408	
MEDIAN:		\$1,117	
Puerto Rico		\$14,004	Baa1***

* Issuer Rating (No G.O. Debt)

** No General Obligation Debt

*** This figure is not included in any totals, means, or median calculations but is provided for comparison purposes only.

TABLE 2

Net Tax-Supported Debt as a % of 2011 Personal Income

1	Hawaii	9.6%
2	Massachusetts	9.4%
3	Connecticut	9.1%
4	New Jersey	7.8%
5	Delaware	6.8%
6	New York	6.6%
7	Kentucky	6.1%
8	California	6.0%
9	Illinois	6.0%
10	Washington	6.0%
11	Mississippi	5.6%
12	Oregon	5.5%
13	Wisconsin	4.8%
14	Rhode Island	4.7%
15	Utah	4.4%
16	New Mexico	4.2%
17	Louisiana	3.7%
18	Maryland	3.6%
19	West Virginia	3.6%
20	Alaska	3.3%
21	Georgia	3.1%
22	Kansas	3.1%
23	Florida	3.0%
24	Arizona	2.8%
25	Ohio	2.8%
26	Pennsylvania	2.8%
27	Minnesota	2.7%
28	Virginia	2.6%
29	Alabama	2.5%
30	South Carolina	2.5%
31	Maine	2.3%
32	North Carolina	2.3%
33	Michigan	2.2%
34	Nevada	2.2%
35	Missouri	2.0%
36	Vermont	2.0%
37	New Hampshire	1.8%
38	Idaho	1.7%
39	Oklahoma	1.7%
40	Texas	1.5%
41	Colorado	1.3%
42	Indiana	1.3%
43	Arkansas	1.0%
44	Montana	1.0%
45	Tennessee	1.0%
46	South Dakota	0.9%
47	Iowa	0.8%
48	North Dakota	0.6%
49	Wyoming	0.1%
50	Nebraska	0.0%
MEAN:		3.4%
MEDIAN:		2.8%
Puerto Rico		88.6%

** This figure is based on 2010 Personal Income. It is not included in any totals, means, or median calculations but is provided for comparison purposes only.

